# Real Estate Services Division California Department of General Services



# Mission Valley State Office Building Quick Response Study (QRS)

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Mission Valley State Office Building San Diego, California

#### **EXECUTIVE SUMMARY**

Under the direction of the Department of General Services (DGS) Post-Occupancy Evaluation (POE) Manager, the second pilot Quick Response Study (QRS) of the (DGS POE Program was conducted in Spring/Summer 2002. The QRS provides feedback to the project team and gathers lessons-learned through a brief user questionnaire and a site visit with interviews and walkthroughs. The project site was the Mission Valley State Office Building (MVSOB) in San Diego. Completed in 2001, this three-story office building includes approximately 219,000 square feet of new office space and houses seven different State agencies.

A QRS Site Team was selected, comprised of various DGS staff: project directors; a planner; a customer account manager; an industrial hygiene manager; building and plant management staff; a representative from the POE strategic planning team; and POE consultants. Project background and customer satisfaction data for the QRS was collected in several ways:

- orientation by the MVSOB project team to project history and issues.
- a written survey completed by building tenants (40% response rate).
- a walkthrough touring interview led by the MVSOB Project Team, including the DGS Building Manager, Project Director, and Project Planner.
- interviews of several building occupants from various departments and floors.

There were several key findings and lessons learned as a result of this QRS on a new multi-tenant building.

## Key Findings and Representative Lessons Learned for DGS Project Directors and Building Operators

- A majority of the responding tenants were satisfied with their personal workspace (63%), the building in general (62%) and the maintenance of the building (63%). Additionally, many interviewees remarked on the responsiveness of the building management staff during the earlier settling-in process and continuing into the post-occupancy phase of the building.
- Of the 20 major survey categories, the majority of respondents expressed satisfaction with the following 14 categories: office furnishings, amount of space, amount of light, workplace satisfaction, maintenance, ease of interaction, building satisfaction, cleaning service, building management, colors and textures, main entry lobby, visual comfort, visual privacy and exterior grounds.

- In the following 6 categories, fewer than 50% expressed satisfaction: noise level, humidity, air quality, temperature, air movement and sound privacy.
- Multi-tenant buildings require particular care in the selection of compatible tenants. Careful planning should consider tenant security requirements, location and proximity needs; specialized functions; need for specialized equipment; and number of public visitors. Public visitors impact parking requirements; signage needs; accessibility from roadways; and common building areas, e.g. lobbies, elevators, restrooms and corridors. A belated modification to the group of tenants originally planned for this building had unexpected adverse impacts on neighboring tenants and common building areas. This was a major issue and is discussed at greater length in this report under "Issues for Consideration at Future Projects."
- Interviews with building occupants indicated that staff who had been consulted about their operations and asked to provide input about their needs were more satisfied with their space than were those who were not consulted by their administrators or department managers. The DGS project team encouraged involvement by prospective users. Nevertheless, they were met with widely different practices among departments in the level of involvement they allowed prospective users in the planning process.
- Building operators may have to deal with perceived problems long after a
  problem has been addressed. For example, at MVSOB, the building had an
  odor and air quality problem in the first few months of occupancy. The
  problem was addressed and quarterly air quality testing confirms that the
  problem has been solved. Nevertheless, the building manager continues to
  be challenged by some tenants' perceptions that the problem still exists,
  despite tests that show otherwise.
- Tenants who come to a State building from leased space where they may
  have lots of autonomy (including the ability to control their own thermostats)
  and large space allocations often have difficulty adjusting to their new space.
  The planning and/or activation process should include educating these
  tenants about State Administrative Manual (SAM) standards regarding space
  allocations, open space plans and modular furniture, temperature guidelines
  for State buildings, and availability of parking.
- Tenants increasingly want and appreciate building and site security
  measures, including: cameras in parking areas and at building access
  points; security staff on site; a public address system for emergency
  situations; controlled entry, including key cards for staff; and limited points of
  entry for visitors. Cameras were added to this project after September 11,
  2001.

• The major comfort areas of greatest concern to tenants were thermal comfort, air quality and acoustic quality. While temperature guidelines, Title 24 air handling requirements and open space planning standards may limit solutions for these occupant concerns, the absence of air movement continues to be a concern of a majority of respondents. Many departments and individuals provided fans for individual workstations to increase employee comfort. This may or may not be the optimal solution. See "Issues for Consideration at Future Projects."

Many other project-related lessons learned from this QRS process can be found in subsequent sections of this report.

#### Representative Lessons Learned for the QRS Process

- This QRS at MVSOB used an on-line survey developed by the Center for the Built Environment (CBE) at U.C. Berkeley as the primary tool for collecting occupant feedback. This was the first opportunity for DGS to try an on-line survey. A paper survey was provided to approximately 300 tenants who did not have internet access. The response rate from those tenants who had access to a paper survey was approximately 60%, significantly higher than was the response rate of tenants who had access only to the on-line survey. If the commitment is made to use only an on-line tool for all future POE surveys, extraordinary efforts will be required to advertise, promote, instruct, simplify and remind tenants in order to get a good participation rate among occupants.
- As with the first QRS, project directors from other projects appreciated the
  opportunity to be involved with this evaluation activity and supported
  development of a process to gather lessons learned from other projects that
  could be applied to their own.
- Several members of the MVSOB QRS site team expressed concern that the duration of the time on site had been too short to have the walkthrough, review survey results, interview users, process all the information and develop key lessons learned. The team was on site for an afternoon, a morning and part of the next afternoon. The team suggested that future QRS activities include another day for reviewing interview results and compiling the lessons learned that should be captured and shared with other project teams.

#### INTRODUCTION

#### The DGS POE Program

In December 2000, DGS embarked on the development of a POE Program as part of its Excellence in Public Buildings (EPB) Initiative. POE was viewed as a program that would help the State build better buildings for users and operators. Consistent with Executive Order D-16-00 issued by Governor Davis, POE will support the Governor's goal that state buildings will be: "models of energy, water, and materials efficiency; while providing healthy, productive and comfortable indoor environments and long-term benefits to Californians."

The POE Charter Team, comprised of DGS managers and consultants, prepared a strategic plan that was accepted in August 2001. It included goals, approach, benefits and implementation strategies, as well as an outline of several key activities of the Program, including the Quick Response Study (QRS).

#### QRS Study and Goals

The QRS is one of the five key components of the DGS Program. A QRS is completed on a facility shortly after occupancy, ideally within the first two to three months. Primary goals of a typical DGS QRS are:

- 1. Provide customer service by inviting building users to give feedback regarding their work environment and the project process.
- 2. Provide a vehicle for the project team to find out how successful the building and the project were, and to know of issues or concerns that can be fine-tuned soon after occupancy to increase user satisfaction and effectiveness.
- 3. Discover "lessons learned" from the project team, particularly lessons that can be shared across projects and building types, including design features, construction issues or project process elements.

Subsequent to the acceptance of the Strategic Plan, the team developed an Implementation Plan that was approved by the Policy Executive Committee (PEC) in November 2001. It proposed several projects to be included in the early phase of the program, with the MVSOB suggested as the second of two pilot QRS projects.

#### Goals of this Pilot QRS of the MVSOB

In addition to the typical QRS project goals, the MVSOB QRS, as the second activity of the POE Program, had additional goals. These included:

- 1. Orient additional DGS staff, particularly project directors, and client agencies to the POE Program and the QRS.
- 2. Test the use of an on-line survey for consideration in future projects.

- 3. Conduct a QRS on a new multi-tenant building, in contrast to the previous QRS of the renovation of one floor of a single tenant building.
- 4. Continue refinement of QRS procedures for use in future projects.

#### **MVSOB PROJECT BACKGROUND AND SCOPE**

The Mission Valley State Office Building is located at 7575 Metropolitan Drive, San Diego, California. Completed in 2001, this three-story building includes approximately 219,000 square feet of new office space and houses approximately 1,000 employees from seven different State agencies: Department of Social Services; Department of Industrial Relations; Department of Health Services; Department of Rehabilitation; Franchise Tax Board; California Coastal Commission; and Department of General Services. The construction was done by a private developer under a build-to-suit lease. It was substantially completed in June 2000 and the State took ownership when it exercised the purchase option in the lease in June 2001.

The building consists primarily of typical office environment spaces, (offices, open workstations, conference rooms, break rooms, storage, etc.) with additional unique spaces on the first floor that include a central mail room, showers and a pending coffee/snack shop. On the third floor there is a large meeting room (the "glass room") available for scheduled use by all the tenants and a large computer room and a computer training center for exclusive use by Social Services personnel.

This steel-frame construction building also includes: a back-up generator; state-of-the-art energy efficiency management systems (controls lighting, heating, ventilation and air conditioning system (HVAC) as well as automatic toilets and lavatories); an FM 200 fire suppression system (72,000 square feet) in addition to the code required fire system; and a card-key security system. The building won an award for exceeding the Title 24 energy component by 26 percent.

The project suffered a setback when odor and air quality problems emerged in October 2000. It was discovered that the concrete slabs on the first and second floors was not allowed to dry properly. Then the moisture interacted with the PVC of the carpet backing and created C-7 alcohol, causing odor problems. Some second floor tenants moved out while the problem was solved and the air quality is monitored periodically to ensure that the building continues to meet air quality standards.

#### **MVSOB QRS PROCESS**

The MVSOB QRS process included the following basic steps:

- Orienting the DGS project director and the building manager to POE and QRS and developing a work plan for the QRS activities.
- Survey of building users to find out what aspects of the building they are most and/or least satisfied with. The majority of building occupants had access to the internet and could access the on-line survey. Approximately 300 occupants did not have access to the internet and were offered a paper survey. The survey provided for both an objective rating of various features as well as the opportunity to comment on specific issues or features.
- Selecting a QRS Site Team, a group that included the DGS project director; the building manager and engineer; other DGS directors and managers being oriented to QRS activities; and the POE consultants. They received orientation materials about QRS and the MVSOB project in advance of the site visit.
  - QRS Site Team Meetings that included:
    - Overview of the project by the project team, including scope, history, issues, challenges.
    - Walkthrough (touring interview) of the building, led by the building manager, with input and discussion from the other project team members
    - o Consultant review of the findings of the occupant survey.
    - o Interviews with representative building users to clarify issues raised in the survey and to collect other information regarding occupant satisfaction, both with the building and the planning and occupancy process.
    - Team summary of potential fine-tuning issues for the project team to investigate further.
    - Development/summary of lessons learned that would be useful to future project teams.
  - Follow-up to site team visit by the building manager at the next monthly tenant meeting survey results, issues being pursued, facility updates.
  - Consultant preparation of summary report of MVSOB QRS activity. QRS site team met to review draft, provide additional input and review the QRS process.

#### **SURVEY/QUESTIONNAIRE RESULTS**

The MVSOB Building Evaluation Survey, a 71-item questionnaire prepared by the Center for the Built Environment, was administered in April 2002. The response rate was moderate at approximately 40 percent.

The survey was designed to investigate how successfully the recently occupied MVSOB is meeting the needs of the tenants working there. The primary goal of the survey was to assess user satisfaction with the project, to determine the potential opportunities for fine-tuning and to gather lessons learned.

#### **Overall Findings: Profile of Participants**

 The majority of the respondents, 55%, were from the Social Services. 22% were from the Health Services, 8% from Rehabilitation, 6% from the Industrial Relations, 3% from Franchise Tax Board, 3% from California Coastal Commission, and only 2% from General Services.

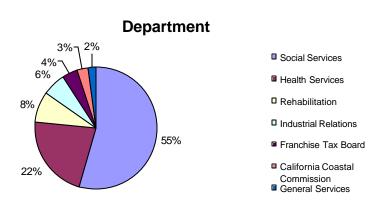


Figure 1: Percentage distribution of participants according to their departments.

 52% of all participants were located on the 3rd floor, 31% on the 1st floor and 17% on the 2nd floor.



Figure 2: Percentage distribution of participants according to the floors on which their workspace is located.

- There are approximately an equal number of participants whose workspace is located on the south (24%), or west (23%), or north (22%) side of the building. 18% are on the east side and 13% are in the interior area of the building.
- There are approximately an equal number of participants who reported that their workspace is near an exterior wall or not (54% versus 46%) and who reported that they are near a window (within 15 feet) or not (51% and 49%).

#### Area of the building

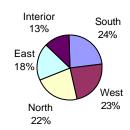


Figure 3: Percentage distribution of participants according to the area of the building where their workspace is located.

 56% of all participants have a cubicle with partitions above standing eye level as their workspace. 20% have private offices, another 20% have cubicles with partitions below standing eye level, and participants in shared offices and in other kind of workspaces are 2% each.

#### Personal workspace

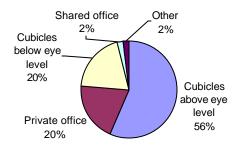


Figure 4: Percentage distribution of participants according to their workspace.

#### **Overall Findings: Satisfaction Among Respondents**

#### Some key findings:

- Overall, satisfaction levels were generally high. Most respondents were satisfied with their personal workspace, the building overall and building maintenance.
- In general, respondents were **especially satisfied** with their furnishings, the amount of space, light, and ease of interaction.
- Respondents were least satisfied with the thermal comfort, air quality and acoustic quality.

In their open-ended comments, some respondents expressed concerns about wayfinding problems for visitors, security of vehicles and restroom maintenance. The building manager will look into improvements in signage and more frequent restocking of restroom supplies in the restrooms impacted by an unexpected number of visitors.

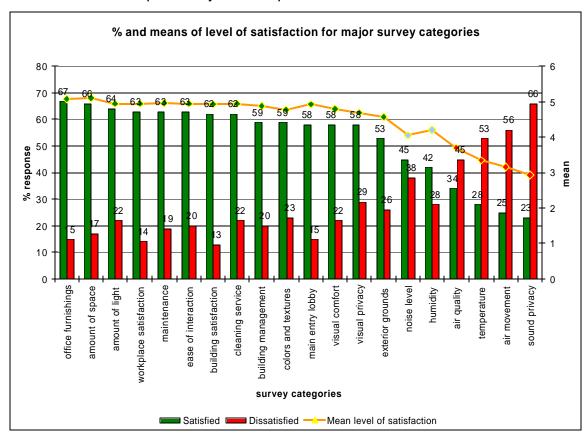


Figure 5: Means and % of responses for the 20 major survey categories. Bars show percentage of satisfied and dissatisfied responses. Dots show the mean level of satisfaction. A green dot shows satisfaction, blue shows neutral/almost neutral and red shows dissatisfied.

#### SITE TEAM WALKTHROUGH RESULTS

In addition to the survey/questionnaire results that were reviewed with the QRS Site Team, the Team gathered information from the building Walkthrough led by the project team members.

The Walkthrough provided an opportunity for the Site Team members to visit all three floors of the building. The Team saw individual workstations as well as common areas; observed several of the building features; and heard from the building manager and engineer, project director and project planner about building features and project process.

Some of the key elements that were pointed out during the walkthrough include:

- **Building entry lobby** is attractive, light and spacious. It accommodates many visitors and includes a building directory and security desk. The project budget did not include furnishings, plants or art for the lobby so it is still very bare.
- The developer chose the pallet of paint colors for the building. Unfortunately, because the developed used two different contractors during the project and each contractor selected different paint products, there are many variations of even the same colors throughout the building, e.g. several shades of beige. Consequently, finding the exact shade for touch ups is a problem. In the future, tighter specs should be developed to avoid different paint products being used, even if multiple contractors are involved.
- Conference rooms of various sizes are provided on each floor to meet different needs of individual departments. Tenants chose not to share conference areas among departments, although the project planner proposed having a few larger, shared conference rooms to afford tenant departments more flexibility, particularly for large meetings. According to the project team, current inquiries of the facility manager regarding conference space indicate that a large, building conference room or auditorium, belonging to no specific tenant agency but available for scheduled use among building tenants, would be useful and save some tenants from traveling to other San Diego locations for departmental meetings.
- The Department of Social Services mail room on the third floor is responsible for a much higher level of traffic than was anticipated. The mail carts have damaged corner and walls above the baseboards. Corner guards have been added and chair rails will soon be installed.
- The building has patterned carpet on some floors and a lighter, solid color on others. The patterned carpet is holding up much better against wear, soil and stains than the solid color, with the solid carpet in the elevators and hallways showing particular wear.

- **Security camera** locations were pointed out, as well as the camera monitors at the security desk in the lobby and in the building manager's office.
- Many of the department areas are large and some internal traffic intersections are very busy. Within some of these large office areas the departments have purchased, and the building manager has installed, **parabolic mirrors** so tenants can view oncoming traffic and avoid collisions.
- Individual departments had a lot of autonomy in planning their space.
   Some departments opted to put private offices around the perimeter of the building while others opted to keep those areas open for circulation or common areas, allowing people in interior cubicle workstations to have access to borrowed light from the windows.
- **Few** tenants, including managers, have **private offices**. To accommodate the need for small, private meeting areas, some departments planned for "quiet rooms" to be used for that purpose. Since occupancy, many of the "quiet" rooms have been appropriated as private offices, reducing the number of rooms available for small conferences.
- The building has a large parking area, the highest staff/parking spaces ratio in Mission Valley, according to the project team. The site is also unusual in that it provides sufficient free parking for all employees and for visitors. The State parking standards only require that disabled accessible parking and parking for State vehicles be provided.
- The building includes a large rotunda "glass room" on the 3<sup>rd</sup> floor. At one time it was thought that this room could be a break room or snack bar to be used by all tenants. However, fire codes preclude it being used for that purpose. Still, it is used effectively as a meeting room by various tenants who reserve it through the building manager's office.

#### INTERVIEWS OF BUILDING OCCUPANTS

The interviewed occupants represented a range of personnel from various departments on each floor of the building. They were organized as pairs or groups and were interviewed by the Site Visit Team for twenty to thirty minutes. Interviewees were asked to give their perspective on the building and how it supported their work responsibilities -- both the aspects they liked as well as their concerns about the space or building features. Most interviewees came with written notes and some had solicited input from other employees in their units, so their comments reflected more than just their own points of view.

Some of the issues and concerns expressed by the interviewees are noted below.

- Many interviewees had very positive comments about the responsiveness of the building manager and his staff. Some mentioned the value of the monthly tenant representative meetings that the building manager holds to exchange information with tenants. Others mentioned the speed at which "settling in" concerns had been addressed and improvements that have been made since occupancy. One group had recently come through a federal audit and mentioned how helpful the building management staff had been.
- Sound transmission problems were noted by some of the first floor tenants. In particular, elevator noise was reported as a problem for Suites 100 and 110 and restroom noise was audible and distracting in Suite 100.
- Restroom issues were mentioned by some employees. These included requests for more frequent restocking of supplies and some specific concerns about fixtures. Other tenants indicated that they had experienced problems earlier but that both maintenance of supplies and operation of fixtures had improved.
- As in the written survey, the issues of temperature and air quality came up
  more frequently than any other issue. Most employees recognized the constraint
  of State building temperature guidelines/policies. Nevertheless, several
  mentioned that they do not feel any air movement and described the condition as
  "close" and "stuffy" and as having too few vents. One interviewee came from a
  building that had too much air movement and liked the absence of draft at
  MVSOB. Some also mentioned that their comfort had increased since they have
  begun using fans in their work areas.
- Some employees mentioned the **wayfinding difficulties** that arise from the "illogical" numbering system of suites on the 2<sup>nd</sup> floor. According to the project team, the numbering system made sense when the project began. However, one consequence of the change in tenants and rearrangement of the space towards the end of the project was a confusing numbering system.

- Several employees mentioned how much they like the building location and its proximity to restaurants.
- Some employees reported that access to the site had been difficult in the first
  weeks of occupancy. The access road was striped to indicate that left turns were
  not allowed. However, some employees were crossing the double yellow striping
  and making left turns into the parking lots. This resulted in a number of traffic
  violation tickets being issued to employees.

#### LESSONS LEARNED

When the Site Team met together and reviewed the results of the survey, the walkthrough, and the occupant interviews, they also talked further with the project team about their experiences throughout the project, eliciting several issues and lessons learned from those discussions. Some of the lessons are quite specific to the MVSOB project; others have much wider applicability for future projects. A variety of these lessons are noted below.

#### Process Issue

The building management instituted a structured communication plan during
the time they were resolving the carpet issues. Tenants were understandably
concerned about what was being done to resolve the problem; how their work
environment would be affected, both short-term and long-term; what would be
the circumstances of their moving out and returning to the building; what kind of
testing would be conducted, etc.

A single point of contact was established at the affected department, the Department of Health Services (DHS), and that contact person was the one to disseminate information both to administrators in Sacramento and affected employees in San Diego. It was a determined by DGS and DHS that such a plan would allow the building manager to go about the business of solving the problem without ongoing questions from dozens of employees. Rather, all questions were posed to the DHS contact person who communicated them to DGS and, in turn, received the responses. It was believed that, with ongoing communication between the building manager and the contact person, this plan would ensure that regular and consistent information would be provided to everyone, rather than only to those who posed questions. Both DGS and DHS management found this a workable solution

#### Design Issues

 More directional signage, particularly at corridor intersections, would be helpful for wayfinding. Visitors to the MVSOB are having considerable trouble finding the correct suites, as well as finding their way back to the elevators. Consider a "you are here" map signage system.

- Using a larger font for the building signage would make the signs easier to read. Elderly visitors are having a particularly difficult time reading signs and finding their way to departments.
- The tendency toward lower overhead light levels supports greater attention being paid to task lighting. Task lighting should be considered in the space planning and selection of furnishings.
- The odor and air quality problem caused by the carpet being installed over concrete that hadn't dried sufficiently could have been avoided if the **specifications** had required use of a concrete sealant to prevent such problems. Future projects, especially build-to-suit projects, should include this specification.

#### Operations and Maintenance Issues

- Where carpeting is used in the elevators and other high-use area, the team recommends using a multi-color, patterned carpet rather than a solid color. Soils and stains are readily apparent on solid-color carpet, requiring frequent cleaning.
- Making additions or modifications to a signage system can be expensive and difficult to coordinate with an outside vendor. When possible, select a signage system that can be managed in-house. This has potential in the ease of updating and making changes as well as considerable cost savings over the life of the building.

#### Elements for Further Consideration at MVSOB

- The building manager will address restroom concerns, by modifying the
  maintenance schedule of some restrooms especially impacted by heavy use and
  by checking out fixtures that were reported by interviewees to be problems, etc.
- If funds allow, the project director and building manager will make modifications
  to the wayfinding system, particularly signage, to improve the ability of
  visitors to find their way in the building. Hopefully, these modifications will reduce
  the incidence of visitors being lost and interrupting employees at their
  workstations to get directions. These modifications may include using larger
  signs, a larger font, more signs (including directions back to the elevator from
  departments with lots of public visitors) and a "you are here" map signage
  system.
- The building manager is pursuing ways to **add art to the building** as there was no allocation for art in the budget.

During the tenant interviews, some tenants expressed ongoing concern for the
air quality in their particular part of the building. The DGS Health & Safety
Manager noted the suite numbers of the concerned tenants and told them that he
would arrange for the next quarterly air quality tests to be conducted in their
suites.

#### Key Issues for Consideration at Future Projects

- DGS projects should allow for a reasonable period for checking out all building systems and testing building elements before the building is occupied. This period could include formal commissioning by a consultant or, alternatively, could, at the least. Allow sufficient time for building management staff to be properly trained and to test building systems. There is always the schedule struggle of allowing enough time for the building operators to do adequate testing and settle in properly versus getting tenants moved in as quickly as possible. Project team members believed that if there had been more time before occupancy they could have addressed the initial HVAC/VAV (heating, ventilation, air conditioning/variable air volume) system concerns that continue to affect the perception of the building by some tenants. A period of at least 60 days to test and resolve any problems was proposed by team members.
- Communication continues to be an issue among building occupants, especially at multi-tenant buildings. A range of strategies and tools should be explored to enhance communication among the DGS project team, the CAM representative, building managers, tenant agencies, and individual tenants during the project planning, design, construction, activation and post-occupancy periods. These tools may be used within agencies as well as among agencies.

The QRS site team came up with several potential tools to exchange information on an ongoing basis during various stages of the project and after activation. These potential tools are noted below.

- o **Information letter** at project inception, to inform prospective occupants about the project planning and design process; the impact of SAM (State Administrative Manual) Standards on space allocations; the roles of DGS and various department Business Service Officers (BSOs) in soliciting information and making decisions about space allocations, equipment, furnishings, etc.; projected schedule milestones, including proposed occupancy; etc.
- A project website, accessible by prospective occupants, with monthly updates on project progress, activities, delays, decisions, site and neighborhood amenities, etc. After occupancy, minutes of monthly tenant meetings could be posted so that all tenants could have timely access to announcements, regardless of whether or not their representative attended the meeting.

- An electronic message board for exchanging information among prospective occupants regarding transportation/carpool inquiries, child care referrals nearby, etc.
- Building User's Manual for each occupant upon arrival with information about each tenant department; key department and building contact persons and their phone numbers; emergency plans; parking provisions and strategy; key state policies and standards, e.g. Executive Order regarding energy conservation; transportation and restaurant Information; etc.
- Project teams are likely to continue hearing concerns about thermal comfort from tenants in state buildings. A solution to these concerns is not easily apparent. As with other new state buildings, the design of the Heating, Ventilating and Air Conditioning (HVAC) system at the MVSOB is constrained in a number of ways. It must meet the requirements of the Title 24 Building Standards, Part 6, Energy Efficiency Standards; provide an environment that falls within the ASHRAE Comfort Zone; and comply with the Governor's Executive Orders regarding energy conservation which currently mandates a temperature range of 68° to 78°F (also requires that lights and HVAC systems be turned off at 5:30 pm).

In a large office building, **a variable air volume (VAV) system** is the most energy-efficient and cost-efficient method of conditioning space. These systems afford creation of separate "zones," allowing HVAC control to be managed separately in different parts of the building. VAV systems are designed to maintain a constant temperature by varying the amount of air flowing through the space. When the room temperature is too high or too low, the system increases the flow of air into the space in order to return the temperature to the "set" point. When the temperature is at or near the "set" point, the air volume slows to a minimum amount (typically around 200 cubic feet per minute [cfm] or 20 to 25 % of the maximum capacity). The VAV system at MVSOB provides constant air movement and temperature control at 78°F.

Some tenants at the MVSOB moved from leased space that is not required to meet the 78°F requirement for State-owned office buildings. Other tenants moved from older buildings that have constant air volume (CAV) systems. CAV systems are designed to maintain a constant level of air flow through the building while allowing the temperature to vary. CAV systems are inefficient and generally unable to comply with the Title 24 requirements for new building design.

Many tenants find the required 78°F uncomfortable. However, tenants who move from buildings that have CAV systems may find the adjustment to a VAV system particularly difficult. As with tenants at MVSOB, there may continue to be complaints of "stuffiness", "poor air quality" and "lack of air movement." Many Departments have responded by allowing individuals to utilize personal fans within their work areas, a solution that is consistent with Executive Energy

Management Orders. Ongoing education about the Governor's Executive Order may help reduce dissatisfaction.

• Careful planning and selection of tenants is critical to the ongoing successful operation of a multi-tenant building. If tenants substitutions are made after key planning and design decisions have been made, the consequences may have an unexpected effect on building use, maintenance and user satisfaction. For example, due to unexpected circumstances at the MVSOB, the Department of Industrial Relations (DIR) was belatedly selected to occupy space originally planned for another tenant. During the planning and programming phase, project planners determined that the original tenant would have few visitors, fairly typical office layout needs, and could appropriately be located on the 2<sup>nd</sup> floor of the building. However, when the space planners interviewed the DIR tenant representatives, it soon became apparent that DIR had specialized and very different needs from the original tenant. Nevertheless, the selection had been made and the project team needed to do the best they could to accommodate those needs in the allocated space.

This substitution of tenants at MVSOB had several unintentional impacts on the building itself, the DIR tenants and other users:

- O DIR has a lot of visitors. Ideally, high traffic tenants should be located on the first floor or directly adjacent to elevators. If DIR had been known to be a tenant from the beginning of the planning process, they would have been located on the first floor, possibly even with an entirely separate entrance so as to reduce the impact of their high volume of traffic on other tenants.
- o The number of visitors to DIR has impacted restrooms on the 2<sup>nd</sup> floor. With the initial tenant planned to occupy that space, there would not have been many visitors to the 2<sup>nd</sup> floor and both restroom areas on the floor would have been available for employee use. However, with the heavy visitor traffic to DIR, one of the restroom areas was designated for visitors, reducing the number of facilities available for employees.
- O DIR had specialized space needs that were not possible within the footprint intended for the original tenant. There was insufficient space for adequate hearing rooms, staff offices and small conference areas for attorneys and clients to meet. Consequently, attorneys end up meeting with clients in hallways, often obstructing other employees' passage in the halls and their entry to other office areas. This unanticipated use of hallways as meeting space has also resulted in an unusual amount of noise which disturbs other tenants, and a maintenance problem with soiled walls where attorneys stand and put the soles of their shoes upon the walls.

• Prequalification of bidders and tight specifications are critical to capital lease projects as well as to typical capital outlay projects. In a typical capital outlay project, the DGS project director is involved in selection and direct management of a design consultant team during the design phases and later a contractor is awarded the project through a competitive bid process. However, in a capital lease project, the DGS relationship is with a developer who bids the project and then selects and manages the design consultants and contractors to complete the work.

Several team members expressed concern about the low bid process and believed that the project could have gone more smoothly if the project had used a **lowest "qualified" bid methodology** in selection of the developer. The project director noted that such a process is available but it requires a high level of analysis and the project teams need to be prepared for a protest period which could delay the project.

While this capital lease process requires less state money initially and puts more responsibility for the project on the developer, it also delegates more project decision making to the developer than does a typical capital outlay process. Consequently, very tight specifications are especially critical in this circumstance to ensure that the developer has clear direction from DGS and will meet the requirements and expectations of DGS and the tenant agencies. For example, the building engineer pointed out that the specifications for the energy management system were sparse. The specs stated that the system should have a PC interface but were not detailed about specific features. Consequently, upon occupancy the building managers were surprised to find out that the system does not provide the capability to remotely monitor and manage return air temperature at each air handler. This is a common feature that allows building managers to do preliminary troubleshooting from their computers. Because this feature was not included in the specs, the managers have no recourse to get it installed by the manufacturer. More detailed specs would have been a safeguard against this circumstance.

Some project team members believe that tighter specs could have avoided other problems, e.g. the odor and air quality problem that required vacating parts of the building and the maintenance difficulties because of multiple paint products used by a series of contractors who were hired by the developer.

During the early weeks and months after occupancy, there are always minor issues that need to be addressed with contractors and vendors during the settling in process after occupancy. Because the State's ownership of the building was delayed until the developer remedied the air quality problems resulting from poor carpet installation, the building management staff had to go **through the owner/developer instead of going directly to the vendors** when there were problems/issues with materials, quality, malfunction of equipment, etc. This situation resulted in an additional layer of contact persons, delays in getting issues resolved and considerable frustration on the part of the building manager.

#### **APPENDICES**

MVSOB Fact Sheet

Survey Instrument

**MVSOB Fact Sheet** 



#### **MVSOB QRS FACT SHEET**

#### PROJECT NAME

Mission Valley State Office Building New State Office Building QRS – Summer, 2002

#### PROJECT LOCATION

Mission Valley State Office Building 7575 Metropolitan Drive San Diego, CA

#### **CONSTRUCTION PROJECT TEAM**

Lewis Dean, DGS Program Manager
Dianna Brown, DGS Project Director
Norton Chapman, DGS Project Planner
Greg Simmons, DGS Building Manager
Cynthia Soto, DGS Document Support
Western Devcon, Inc., Development/Management
Lusardi Construction, Construction Management
Gene Cipparone Architects, Inc., Architect



#### **QRS SITE VISIT TEAM**

Jim Brooks, PMB

Dianna Brown, PMB

Norton Chapman, PSB

Sheral Gates, AB&EB

Gary Lewis, PMB

Vincent Paul, DGS

Greg Simmons, DGS

Nancy Vierra, CAM

Bill Wooldridge, BPM

Cheryl Fuller, Fuller, Coe & Associates (FCA)

Candy Roberts, Fuller, Coe & Associates (FCA)



#### **BUILDING DESCRIPTION & OPERATION**

The Mission Valley State Office Building is located at 7575 Metropolitan Drive, San Diego, California. Completed in 2001, this three-story building includes approximately 219,000 square feet of new office space and houses seven different State agencies.

The building consists primarily of typical office environment spaces, (offices, workstations, conference rooms, break rooms, storage, etc.) with additional unique spaces on the first floor that include a central mail room, showers and a pending coffee/snack shop. On the third floor there is a large meeting room (the "glass room") available for scheduled use by all the tenants and a large computer room and a computer training center for exclusive by Social Services personnel.

This steel-frame construction building also includes: a back-up generator; state-of-the-art the energy efficiency management systems (controls lighting, heating, ventilation and air conditioning system (HVAC) as well as automatic toilets and lavatories); an FM 200 fire suppression system (72,000 square feet) in addition to the code required fire system; and a card-key security system.

In addition to the card-key security system for staff, a building security guard is on duty daily from 7:00 a.m. to 6:00 p.m. There are also cameras on each corner of the building that surveil the free access parking areas 24 hours a day, seven days a week. The parking lot activity is recorded and monitors are located at both the security guard station and the Facility Manager's office.



The building operates normal business hours (8:00.a.m. to 5:00 p.m.) and, in contrast to many state office buildings, has lots of visitor activity. Among those tenants that deal regularly with the public are the Franchise Tax Board, the Labor Commission, and Social Services personnel dealing with Community Care and Child Care Licensing.

#### **BUILDING PROJECT SCOPE**

The Mission Valley State Office Building Project consisted of the purchase of approximately 12.35 acres of land, the construction of the three-story office building, a commercial grade trash compactor (located adjacent to the building, enclosed in concrete enclosure) and approximately 880 parking spaces. The site is located near a wide range of retail amenities as well as near many hotel facilities. There are bus and trolley stops nearby for easy transportation to and

The construction of the project was done by a private developer under a build-to-suit lease and was substantially completed in June 2000. During the time period of June 2000 to October 2001, the developer completed the balance of the tenant improvements and the State completed its phased-occupancy of the building. The building is 100 percent State occupied with an employee population of approximately 1,000 personne I. The State of California took ownership of the Mission Valley State Building Project when it exercised the purchase option in the lease on June 29, 2001.



#### **BUILDING TENANTS**

The building is managed by the Department of General Services and houses approximately 1,000 occupants, including employees of the following seven state agencies:

- Department of Social Services largest tenant department located on the 1<sup>st</sup> and 3<sup>rd</sup> floors, occupying approximately 94,000 square feet;
- Department of Industrial Relations located on the 2<sup>nd</sup> floor, occupying approximately 49,000 square feet;
- Department of Health Services located on the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> floors, occupying approximately 34,000 square feet;
- Department of Rehabilitation located on the 1<sup>st</sup> floor, occupying approximately 14,000 square feet;
- Franchise Tax Board located on the 2<sup>nd</sup> floor, occupying approximately 8,000 square feet;
- California Coastal Commission located on the 1<sup>st</sup> floor, occupying approximately 6,000 square feet;
- 7. Department of General Services located on the 1<sup>st</sup> floor, occupying approximately 7,000 square feet.

These tenants moved to this location from 10 other leased spaces in San Diego.

Most of these employees work in open workstations with a few enclosed offices around the perimeter of the floor.



#### **BUDGET**

The Mission Valley State Office Building Project budget was purchased for \$39.7 million using a PMIA loan. Bonds were sold in March 2002, and the project is now bond funded. Rent received from tenants will go toward retirement of the bond debt.

#### **SCHEDULE**

The project groundbreaking occurred on December 15, 1998, and construction began within that same month.

Initial occupancy occurred in April 2000, and the last of the current tenants moved into the building in October 2001.

The project is fully complete with the exception of two small tenant spaces. One space of approximately 2,500 square feet on the first floor has been tentatively leased out. The remaining space on the ground floor will be a coffee/snack shop run by the Department of Rehabilitation, Business Enterprise Program (BPE). Completion of that space is expected on February 2003.

**Survey Instrument** 



#### **BUILDING EVALUATION SURVEY**

#### **Department of General Services**

Thank you for your participation in this building evaluation study. This study is a joint effort between the California Department of General Services and the Center for the Built Environment at the University of California, Berkeley to investigate the quality of your work environment. As part of this study, we are collecting data on your perceptions of environmental conditions in your work area via a survey.

This survey covers issues such as thermal comfort, acoustical quality, lighting quality and air quality. It will take approximately 10-15 minutes to complete. The composite results will be presented to building managers and maintenance personnel. Please be assured that your identity will remain *anonymous* and your individual responses will be kept *confidential*.

Please complete the following survey and return it to your supervisor as soon as possible. Our goal is to collect the surveys by this <u>Thursday</u>, <u>April 25</u>, <u>2002</u>. However, if you need additional time, we can accommodate this - please complete the survey at your earliest convenience and turn it in to your supervisor. He or she will forward late surveys to CBE via mail.

**Questions.** If you have questions about the study, please contact the Center for the Built Environment at the University of California, Berkeley <a href="mailto:cbe@uclink.berkeley.edu">cbe@uclink.berkeley.edu</a>. A research specialist will respond to your question promptly. If you have any questions about your rights or treatment as a participant in this research project, please contact the University of California at Berkeley's Committee for Protection of Human Subjects <a href="mailto:subjects@uclink4.berkeley.edu">subjects@uclink4.berkeley.edu</a>.

Thank you for your interest and cooperation.

The CBE Research Team

#### CBE Building Evaluation Survey

All responses will be kept strictly confidential. Demographic information will be used for research purposes only. Responses will not be linked to an individual's identity.

1	Background		
1.1	For which Department do you well Social Services Health Services Franchise Tax Board Industrial Relations	work?  California Coastal Commission Rehabilitation General Services	
1.2	When did you move into the buil  ☐ 7/00 ☐ 8/00 ☐ 12/00	uilding?  3/01  11/01	
1.3	In a typical week, how many hou  10 or less 11-30 More than 30	ours do you spend in your workspace?	
1.4	What is your age? □ 30 or under □ 31-50 □ Over 50		
1.5	What is your gender? ☐ Female ☐	Male	
2	Personal Workspace Locati	ition	
2.1	On which floor is your workspace  1 1st 2 2nd 3 rd	ace located?	
2.2	In which area of the building is y  North East South West Interior	your workspace located?	
2.3	Are you near an exterior wall (wi ☐ Yes ☐	within 15 feet)? No	
2.4	Are you near a window (within 1s ☐ Yes ☐	15 feet)? No	

3	Workspace									
3.1	Which of the following best describes your personal workspace?  ☐ Private office with floor to ceiling walls ☐ Shared office (with other people) with floor to ceiling walls ☐ Cubicles with partitions above standing eye level ☐ Cubicles with partitions below standing eye level ☐ Other:									
4	Office Layout									
4.1	How satisfied are you with the amount of space available for individual work and storage?									
	Very satisfied □ □ □ □ □ □ Very dissatisfied									
4.2	How satisfied are you with the level of visual privacy?									
	Very satisfied □ □ □ □ □ □ Very dissatisfied									
4.3	How satisfied are you with the ease of interaction with co-workers?  Very satisfied   Very dissatisfied									
4.4	Please describe any other issues related to the office layout that are important to you.									
5	Available Space									
5.1	If you said that you are dissatisfied with the amount of space available for individual work and storage, which of the following contribute to your dissatisfaction? (check all that apply)  Amount of work surface area  Total area of work station  Available filing and storage space  Available space for personal items  Space for meeting with other people  Other:									
6	Visual Privacy									
6.1	If you said that you are dissatisfied with the level of visual privacy, which of the following contribute to your dissatisfaction? (check all that apply)  High density – too little space separating people Partitions or walls are too low or transparent People can easily see in through exterior windows Too many people walking in my work area Other, please specify:									

7	Ease of Interaction										
7.1	If you said that you are dissatisfied with the ease of interaction with co-workers, which of the following contribute to your dissatisfaction? (check all that apply)  My work station is not near my co-workers  My work station is difficult to find or out of the way  Conversations are discouraged because the noise is distracting to others  There are no spaces (i.e., break rooms) to casually interact with co-workers  There are few organized opportunities to interact with co-workers  Other:										
8	Office Furnishings										
8.1	How satisfied are you with the comfort of your office furnishings (chair, desk,										
	computer, equipment, etc.)?  Very satisfied    Very dissatisfied										
8.2	How satisfied are you with the colors and textures of flooring, furniture and surface finishes?										
	Very satisfied   Very satisfied   Very dissatisfied										
8.3	Please describe any other issues related to office furnishings that are important to you.										
9	Thermal Comfort										
9.1	Which of the following do you personally control in your workspace? (check all that apply)  Thermostat Operable window Portable heater Portable fan Adjustable floor air vent (diffuser) None of the above Other:										
9.2	How satisfied are you with the temperature in your workspace?  Very satisfied   Very dissatisfied										
9.3	How satisfied are you with the level of humidity in your workspace?  Very satisfied   Very dissatisfied										
9.4	How satisfied are you with the air movement in your workspace?  Very satisfied   Very dissatisfied										

10 7	emperature									
10.1	If you said that your are dissatisfied with the temperature in your workspace, which of the following contribute to your dissatisfaction?									
10.2	In warm/hot weather, the temperature in my workspace is: (check all that apply)  ☐ Often too hot ☐ Often too cold									
10.3	In cool/cold weather, the temperature in my workspace is: (check all that apply)  ☐ Often too hot ☐ Often too cold									
10.4	When is this most often a problem? (check all that apply)  Morning Afternoon Evenings Weekends/ Holidays Monday mornings No Particular Time Other:									
10.5	How would you best describe the source of this discomfort? (check all that apply)    Air movement too high/low   Incoming sun   Heat from office equipment   Drafts from windows   Air coming out of vents too hot/cold   My area is colder/hotter than other areas   Clothing policy is not flexible   Hot/cold floor or wall surfaces   Thermostat is inaccessible   Thermostat is adjusted by other people   Other:									
10.6	Please describe any other issues related to being too hot or too cold in your workspace.									
11 F	lumidity									
11.1	If you said that you are dissatisfied with the level of humidity in your workspace, how often is the air too humid (damp)?  Always Often Sometimes Rarely Never Don't know/No opinion									

11.2	How often is the a  Always Often Sometimes Rarely Never Don't know/No o		dry?	?					
11.3	Please describe a	ny ot	her is	ssues	relate	ed to t	he lev	vel of humidity in your workspace.	•
12 A	Air Quality								
12.1	How satisfied are Very satisfied □	you v □	with t □	he air □	quali □	ty in y □	our w □	vorkspace? Very dissatisfied	
13 A	Air Quality								
	ı said that you are o of each of the follo					nir qua	ality in	your workspace, please rate the	
13.1	Air is stuffy/stale Major problem □ Not a problem			_				Minor problem	
13.2	Air is not clean: Major problem □ □ Not a problem			_				Minor problem	
13.3	Air smells bad (od Major problem    Not a problem	dors)		_				Minor problem	
13.4	If there is an odor all that apply)  Tobacco smoke Photocopiers Printers Food Carpet or furnitur Other people Other:	re		which	of th	e follo	owing	contribute to this problem? (chec	k
13.5	Please describe a important to you.	ny ot	her is	ssues	relate	ed to t	he air	quality in your workspace that ar	е

14 L	ighting
14.1	Which of the following controls do you have over the lighting in your workspace?  (check all that apply)  Light switch Light dimmer Window blinds or shades Desk (task) light None of the above Other:
14.2	How satisfied are you with the amount of light in your workspace?  Very satisfied   Very dissatisfied
14.3	How satisfied are you with the visual comfort of the lighting (e.g. glare, reflections, and contrast)?
	Very satisfied
14.4	Please describe any other issues related to lighting that are important to you.
1E I	ight Lovel
15 L	ight Level
15.1	If you said that you are dissatisfied with the amount of light in your workspace, which of the following contribute to your dissatisfaction? (check all that apply)  Too dark Too bright Not enough daylight Too much daylight No task lighting Other:
16 A	coustic Quality
16.1	How satisfied are you with the noise level in your workspace?  Very satisfied   Very dissatisfied
16.2	How satisfied are you with your sound privacy? (ability to have conversations without your neighbors overhearing and vice-versa)  Very satisfied   Very dissatisfied
16.3	Please describe any other issue related to acoustics that are important to you.

17 N	loise Level
17.1	If you said you are dissatisfied with the noise level in your workspace, which of the following contribute to this problem?  People talking in surrounding offices Mechanical (heating, cooling and ventilation systems) Outdoor traffic noise People in corridor Office equipment Office lighting Telephones ringing Other:
18 5	Safety and Security
18.1	Do you know of any problems that create risk of injury in this building?  ☐ Yes What are they? ☐ No
18.2	How often do you feel unsafe outside the building?  Never
18.3	How often do you feel unsafe inside the building?  Never
19 5	Safety and Security Outside
19.1	If you indicated that you do not always feel safe outside the building. In which of the following areas do you feel unsafe? (check all that apply)  Surrounding neighborhood Parking areas Plaza (entry way) Other:
19.2	Which of the following contribute to your feeling unsafe? (check all that apply)  Inadequate exterior lighting Landscaping provides places to hide Exterior niches in the building provide places to hide Lack of public visibility Other: Comments:

19.3	When do you feel unsafe? (check all that apply)  Coming to work  During the day  Leaving work at the end of the day  At night Other: Comments:
20 S	afety and Security Inside
20.1	If you indicated that you do not always feel safe inside the building. In which of the following areas do you feel unsafe? (check all that apply)  Your office or work area Counter areas (clerk intake counter, etc.) Restrooms Public lobbies and corridors Elevators Stairwells Other: Comments:
20.2	Which of following contribute to your feeling not safe? (check all that apply)    Isolated areas   Inadequate lighting   Other:   Comments:
21 E	Building and Grounds
21.1	How satisfied are you with the <u>functionality</u> of the main entry lobby of the building?  Very satisfied   Very dissatisfied
21.2	How satisfied are you with the design of the building's exterior grounds, including its plazas, landscaping, and outside seating areas?  Very satisfied   Very dissatisfied

22 L	Lobby	/								
22.1	Why?		ses safe oo smal tion/layo	ety haza Il out is co	rds onfusing	sfied w	ith the	functionali	ty of the build	ling's lobby.
23 L	Exter	ior Groun	ds							
23.1	.1 You have indicated that you are not satisfied with the building's exterior grounds.  Why? (check all that apply)  There is inadequate provision for seating Climatic conditions in public spaces are unpleasant Trees and shrubs are not attractive Public spaces are not user-friendly Exterior surfaces are in poor condition Other: Comments:									
24 (	Clean	liness and	d Mai	ntena	ance					
24.1		satisfied are	you w		aning s	service	provi	<b>ded for you</b> Very dissat	r workspace? isfied	
24.2		satisfied are	-	_	neral m		ance d □	of the buildi Very dissat		
24.3		satisfied are	-		perfor		of the	<b>building m</b> Very dissat	anagement?	
24.4		se describe a		ner iss	ues rel	ated to	clean	ing and mai	intenance tha	t are

25 C	Cleaning Service
25.1	If you told us that you are dissatisfied with the cleaning service provided for your workspace. How often do you have significant problems?  Always Often Sometimes Rarely Never Don't know/No opinion
25.2	Which of the following contribute to this dissatisfaction? (check all that apply)  Surface dust on work surfaces close to you  Surface dust on other surfaces you might touch  Surface dust on surfaces difficult to reach  Spills and debris  Dirty floors  Trash cans are not emptied overnight  Trash cans get too full during the day  Trash cans are a significant source of odor  Other:
26 E	Building Management
26.1	If you told us that you are dissatisfied with the performance of the building management. How often do you have significant problems?  Always Often Sometimes Rarely Never Don't know/No opinion
26.2	Which of the following contribute to this dissatisfaction? (check all that apply)  ☐ Professionalism of staff ☐ DGS staff's availability to discuss building and tenant issues ☐ DGS staff's responsiveness to building and tenant issues ☐ DGS staff's knowledge of building operations ☐ Other:

<i>27 (</i>	General Comn	nents	•					
27.1	_					-		your personal workspace?
	Very satisfied □							Very dissatisfied
27.2	How satisfied ar	e you	with	the b	uildin	g ove	rall?	
	Very satisfied □							Very dissatisfied
27.3	Any additional obuilding overall							bout your personal workspace or
27.4			to co	ontact	you r	egard	ling a	workplace issue, please enter your
	name, work pho	ne nu	mber	and e	email a	addre	ss bel	low. If not, leave these items blank.
	Name:							
	Phone number: _							
	Email address: _							<u> </u>

### Thank you for your participation!

Please send your completed surveys to:

Sheral Gates, Portfolio Manager Real Estate Services Division 707 3<sup>rd</sup> Street, Suite 6-130 West Sacramento, CA 95605

(916) 376-1804